ECOSYSTEM STATUS INDICATORS

Groundfish

Update on EBS winter spawning flatfish recruitment and wind forcing

Contributed by Jim Ingraham and Tom Wilderbuer, AFSC

Wilderbuer et al. (2002) summarized a study examining the recruitment of winter-spawning flatfish in relation to decadal atmospheric forcing, linking favorable recruitment to the direction of wind forcing during spring. OSCURS model time series runs indicated in-shore advection to favorable nursery grounds in Bristol Bay during the 1980s. The pattern change to off-shore in the 1990- 97 time series coincided with below-average recruitment. The time series is updated (2000-2005; Figure 70) for the last 6 years.

Five out of six OSCURS runs for 1998-2004 were consistent with those which produced above-average recruitment in the original analysis, 2000 being the exception. The north-northeast drift pattern suggests that larvae may have advected to favorable, near-shore areas of Bristol Bay by the time of their metamorphosis to a benthic form of juvenile flatfish. Preliminary estimates of rock sole recruitment in recent years are consistent with this larval drift hypothesis. The end point of the drift trajectory in 2005 was the furthest offshore of any since 2000; therefore, recruitment strength for the 2005 yearclass of winter spawning flatfish may be weak.

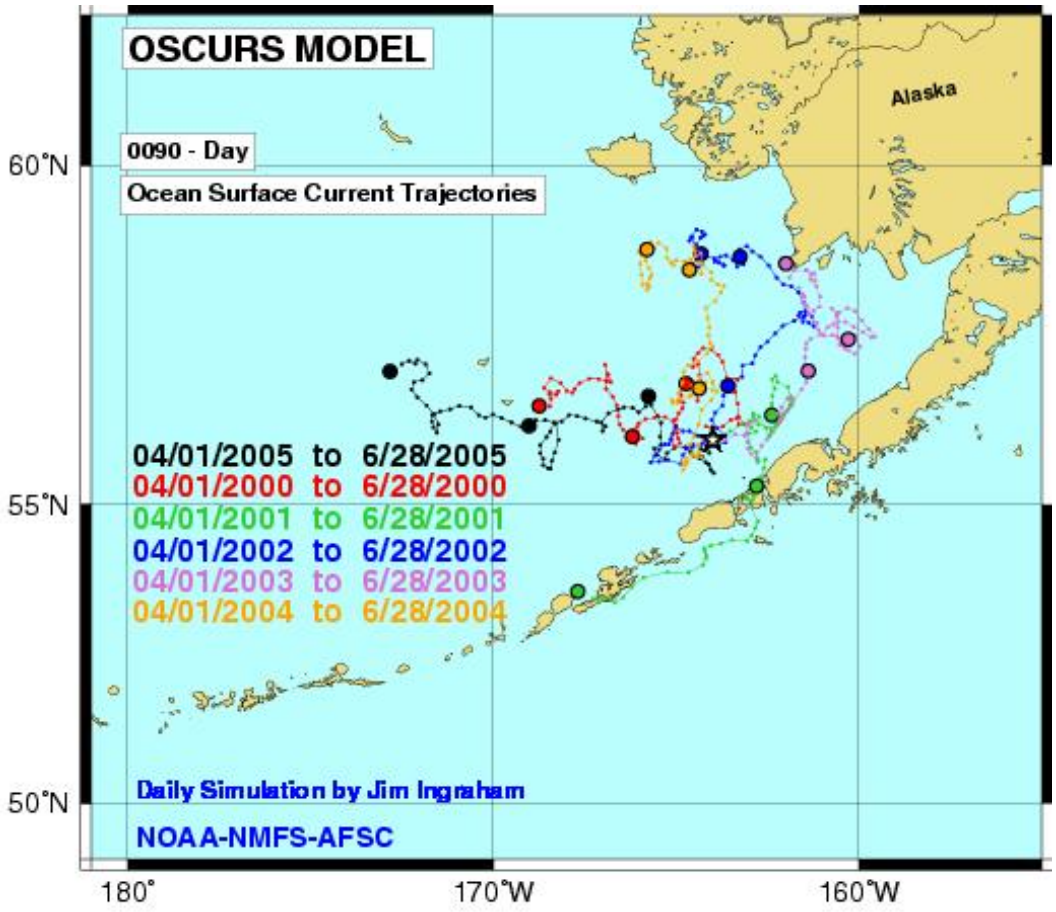

Figure 70. OSCURS (Ocean Surface Current Simulation Model) trajectories from starting point 56° N, 164° W from April 1-June 30 for 2000-2005.